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State of Utah
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Governor

GARY HERBERT
Lieutenant Governor

Department of
Environmental Quality

William J. Sinclair
Acting Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

March 26, 2009

William R. Perritt
P.O. Box 14
Elkton, VA 22827

Subject: Division of Water Quality Responses to Your Written Comments Regarding Proposed Ground Water Discharge Permit UGW370007 for the Energy Queen Uranium Mine

Dear Mr. Perritt:

The Division of Water Quality (DWQ) received your letter on March 11, 2009 regarding proposed Ground Water Discharge Permit UGW370007 for the Energy Fuels Resources Corporation (EFRC) Energy Queen Uranium Mine. We appreciate your concerns and would like to address your comments. Your comments are indicated in italics below and are followed by our response.

Comment 1: *I am writing to express concern about a plan by Energy Fuels Resources (permit UGW370007) to process contaminated water in open ponds near La Sal, UT. In discussion with my neighbors, there is a lot of confusion as to how this water will be handled, and I urge you to set up a public meeting in La Sal to help address fears many have of groundwater contamination possibilities.*

DWQ Response: We received written comments from three La Sal residents and one Moab resident during the 30-day public comment period: Based on a review of the comments, DWQ will hold a public meeting on April 6, 2009 at 6:30 P.M. in the La Sal Community Center. Representatives from DWQ, the Division of Oil, Gas and Mining, and EFRC will be available to answer questions about the proposed ground water discharge permit and the mining operation. Because your letter indicated a mailing address in Elkton, Virginia, we assume you will be unable to attend the open house. Therefore, I will clarify how the ground water discharge permit will manage the mine dewatering and treatment operation below.

The purpose of the Ground Water Discharge Permit is to protect ground water beneficial uses by applying best available technology (BAT) for new facilities and discharge minimization technology (DMT) for existing facilities to minimize discharge of pollutants, and verify the effectiveness of the BAT and DMT by ground water quality compliance monitoring.

Ground water quality compliance for the Untreated Water Pond will be accomplished using primary compliance monitoring wells HMW-1, HMW-2, HMW-3, HMW-4, and HMW-5 and well-specific ground water protection levels established in accordance with UAC R317-6-4. If primary compliance monitoring wells indicate an exceedance of ground water protection levels, compliance status will be determined by following the accelerated sampling and source assessment procedures in Part I.F, of the permit. Secondary compliance monitoring wells MW-1, MW-2, MW-3, and MW-4 will be utilized when Out-of-Compliance Status has been determined for any of the primary compliance wells in accordance with Part I.F.2 of the permit. The permit will require quarterly compliance monitoring reports be submitted to DWQ with the results of BAT performance monitoring and ground water quality compliance monitoring. These monitoring requirements are explained in the permit Statement of Basis.

Shallow ground water at the mine flows west-northwest away from La Sal toward the Colorado River and its tributaries. Except for the Hecla Mine well, there are no downgradient water wells within two miles of the mine. Private drinking water wells in the area are typically screened near the base of the Dakota/Burro Canyon Formation, which is located at a depth of 220 feet below the ground surface at the mine. The Salt Wash Member of the Morrison Formation is the ore unit that is being dewatered and is located at a depth of 670 feet below the ground surface. Intermingling of ground water from the Dakota/Burro Canyon aquifer and the Salt Wash Member will be prevented by two mechanisms, one that is man-made and one that is naturally-occurring. The man-made mechanism for preventing ground water mixing is the concrete casing that has been installed in the mine shaft to provide a seal for preventing cross-communication with other aquifers. This concrete casing may develop minor cracks that could allow some of the shallower Dakota/Burro Canyon groundwater to flow into the mine. However, Energy Fuels would grout any cracks encountered to minimize inflows and potential depletion of the shallow aquifer. The naturally-occurring mechanism for preventing ground water cross-communication is the 450-foot thick Brushy Basin Member aquitard, which is present between the Dakota/Burro Canyon aquifer and the Salt Wash Member. The Brushy Basin Member is composed of 368 feet of mudstones interbedded with thin and discontinuous sandstone lenses. The bentonitic content and very low permeability of the Brushy Basin mudstones makes this aquitard an effective natural barrier for preventing cross-communication between the Dakota/Burro Canyon aquifer and the Salt Wash Member.

Comment 2: *It is my hope that Energy Fuels could handle this water in closed storage, so as to minimize hazards to local bird and animal life, and to keep airborne contaminates to a minimum. Plus, I would urge that any effluent be treated to the highest standard (especially in regards to heavy metals and radiation) before being released into the local watershed.*

DWQ Response: Although there will be some evaporation to the atmosphere, the pond is designed as a no-discharge facility with two 60-mil high density polyethylene (HDPE) synthetic liners with a leak detection layer between them, and a leak collection system. If any water leaks through the primary (upper) HDPE liner, the leakage will be routed to a leak collection sump and pumped back into the pond.

The 30-day public comment period for UPDES Permit UT0025712 opened on February 5, 2008 with the posting of the public notice in the San Juan Record. The public comment period closed on March 7, 2008. No comments were received and the permit was issued on April 1, 2008.

Comment 3: *Opportunities look bright and positive for nuclear energy as we steer this country towards a more diverse portfolio. Let's just make sure we're very careful, and avoid mistakes of the past.*

DWQ Response: This mining operation will be regulated by multiple agencies, administrative rules, regulations, and permits including:

- Federal Mine Safety and Health Administration regulations for adequate ventilation and monitoring of radiation levels in the underground work areas;
- U.S. Environmental Protection Agency approved methods and regulations for monitoring radiation emissions from the mine including radon levels and flow rates;
- Utah Division of Oil, Gas and Mining Rule R647-4, Large Mining Operations, Notice of Intention to Commence Large Mining Operations;
- Utah Division of Water Quality Construction Permit, Rule R317-1, General Requirements, and Rule R317-6, Administrative Rules for Ground Water Quality Protection;
- Utah Division of Water Quality Ground Water Quality Discharge Permit UGW370007, Rule R317-6, Administrative Rules for Ground Water Quality Protection;
- Utah Division of Water Quality Utah Pollutant Discharge Elimination System Discharge Permit UT0025712, Rule R317-8; and
- U.S. Department of Transportation ore transportation regulations.

I hope I have adequately addressed your concerns regarding the proposed Ground Water Discharge Permit. If you have any additional questions, please contact me at (801) 538-6038 or rherbert@utah.gov.

Sincerely,

Robert F. Herbert

Rob Herbert, P.G., Manager
Ground Water Protection Section

Cc: Paul Baker, DOGM Minerals Program Manager
Matt Garn, DWQ UPDES Section